PSE softstarter
The efficient range

The new generation PSE is a true general-purpose softstarter. It’s a perfect balance between high starting capacity and cost efficiency. Now featuring built-in fieldbus communication.

Basic motor protection and current limit
The PSE includes the most important protections for handling different load situations that can happen to pumps e.g. overload and underload. The current limit gives you more control of the motor during start and allows you to start your motor in weaker networks.

Digital input for start, stop and reset
PSE is controlled through digital inputs using the internal 24 V DC source. This allows easy control with e.g. push buttons or relays.

Output signal relays for run, top of ramp and event
Three output signal relays for indicating that the motor is running, that the softstarter is in top of ramp and if any event has happened. The relays can be used e.g. with pilot lights or to control a line contactor.

NEW Modbus-RTU
Built-in Modbus-RTU fieldbus communication for monitoring and control. Support for all major communication protocols.

Torque control for elimination of water hammering in pumps
Torque control is the most efficient way to stop a full speed pump. The PSE has a special torque stop ramp that is designed together with a pump manufacturer to eliminate water hammering in an optimal way.

Coated PCB
Coated circuit boards protecting from dust, moist and corrosive atmosphere PSTX coating type DOW CORNING 1-2620 LOW VOC.
Technical data | PSE18 ... PSE370
---|---
Rated insulation voltage $U_i$ | 600 V
Rated operational voltage $U_e$ | 208...600 V +10%/-15%
Rated control supply voltage $U_s$ | 100...250 V +10%/-15%, 50/60 Hz ±10 %
Rated control circuit voltage $U_c$ | Internal 24 V DC
Starting capacity at $I_e$ | 4 x $I_e$ for 10 sec.
Number of starts per hour | 10
Maximum Altitude | 4000 m (13123 ft)

Overload capability
Overload class | 10

Ambient temperature
During operation | -25...+60 ºC (-13...+140 F)
During storage | -40...+70 ºC (-40...+158 F)

Degree of protection
Main circuit | IP00
Supply and control circuit | IP20

Main circuit
Built-in bypass | Yes
Cooling system | fan cooled (thermostat controlled)

HMI for settings
Display | 4 7-segments and icons. Illuminated
Keypad | 2 selection keys and 2 navigation keys

Main settings
Setting current | Size dependent
Ramp time during start | 1...30 sec
Ramp time during stop | 0...30 sec
Initial/end voltage | 30...70%
Current limit | 1.5...7 $I_e$
Torque control for start | Yes / No
Torque control for stop | Yes / No
Kick start | Off, 30...100%

Signal relays
Number of signal relays | 3
K2 | Run signal
K3 | TOR (bypass) signal
K1 | Event signal
Rated operational voltage $U_e$ | 100-250 V AC/24 V DC
Rated thermal current $I_{th}$ | 3 A
Rated operational current $I_e$ at AC-15 ($U_e = 250 V$) | 1.5 A

Technical data | PSE18 ... PSE370
---|---
Analog output
Output signal reference | 4...20 mA
Type of output signal | 1 Amp
Scaling | Fixed at 1.2 x $I_e$

Control circuit
Number of inputs | 3 (start, stop, reset of faults)

Signal indication LED
On / Ready | Green flashing / steady
Run / TOR | Green flashing / steady
Protection | Yellow
Fault | Red

Protections
Electronic overload | Yes (Class 10A, 10, 20, 30)
Locked rotor protection | Yes
Underload protection | Yes

Fieldbus connection
ABB Fieldbus plug | Yes (option)
NEW Built-in modbus | Yes

External keypad
Display | LCD type

Ambient temperature
During operation | -25...+60 ºC (-13...+140 F)
During storage | -40...+70 ºC (-40...+158 F)

Degree of protection | IP66

Product compliance
CE, cULus, CCC, EAC, ANCE, C-tick, KC, ABS, DNV
GL, Lloyd’s Register, CCS, PRS, Class NK

1) Valid for 50% on time and 50% off time. If other data is required, contact your local ABB office.
2) Above 40 ºC (104 F) up to max. 60 ºC (140 F) reduce the rated current with 0.6% per ºC (0.33% per F).
3) When used at high altitudes, above 1000 meters (3281 ft) up to 4000 meters (13123 ft), de-rate the rated current using the following formula. \[ \% \text{ of } I_e = 100 - \left( x - 1000 \right) \]
4) A common voltage needs to be used for all 3 signal relays.

PSE Dimensions and weight
<table>
<thead>
<tr>
<th>Frame size</th>
<th>H (mm)</th>
<th>W (mm)</th>
<th>D (mm)</th>
<th>(kg) (lb)</th>
</tr>
</thead>
<tbody>
<tr>
<td>PSE18...60</td>
<td>245</td>
<td>90</td>
<td>185.5</td>
<td>2.4</td>
</tr>
<tr>
<td>PSE72...105</td>
<td>245</td>
<td>90</td>
<td>185.5</td>
<td>2.5</td>
</tr>
<tr>
<td>PSE142...170</td>
<td>295</td>
<td>130</td>
<td>219.5</td>
<td>4.2</td>
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<tr>
<td>PSE210</td>
<td>435</td>
<td>190</td>
<td>236.5</td>
<td>9.5</td>
</tr>
<tr>
<td>PSE250...370</td>
<td>435</td>
<td>190</td>
<td>236.5</td>
<td>10.9</td>
</tr>
</tbody>
</table>

1) Note: Include HMI

For more information, please contact your local ABB representative or visit https://new.abb.com/drives/softstarters

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